

FHWS

iOS Programmierung (mit Swift)

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Deutsche Telekom AG
FHWS - Hochschule für angewandte Wissenschaften Würzburg-Schweinfurt
#FHWSSwift

Agenda

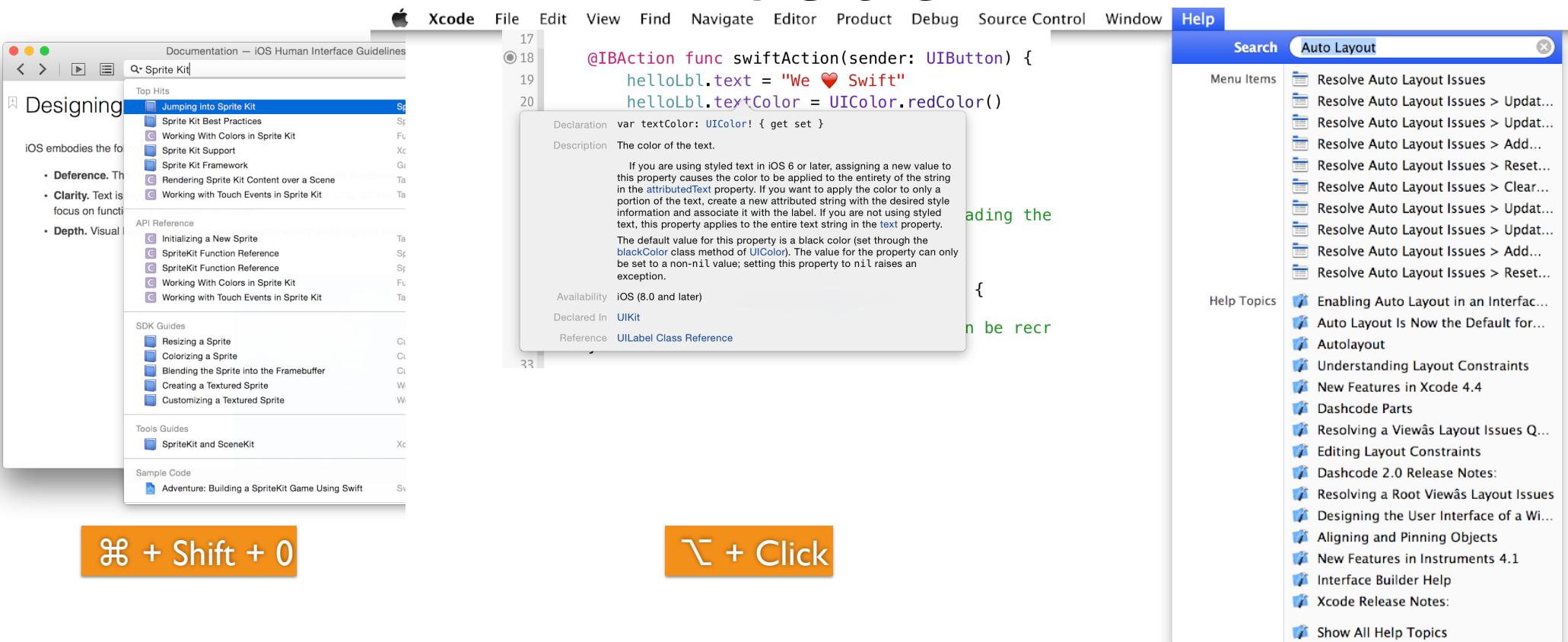
1. **Introduction** – Organisatorisches
2. **First iOS-Project** – Hello World, **First iOS-Project** – Still Hello World (now with Code 😊)
3. **Swift**, Wait!, What about Objective-C?, Why Swift?
4. **A (not so) Quick Tour**
5. **Documentation**
6. **The basics** – iOS Architecture & more
7. **User Interfaces** – View Controller, Auto Layout & Size Classes
8. **Storyboard & Segues**
9. **Tables & NavigationController**
10. **TabBarController**
11. **Notifications**
12. **PickerViews**
13. **Touches, Gestures, 3D Touch, Peek & Pop**
14. **ScrollView & StackViews**
15. **Networking** – JSON & Dependency Managers
16. **WebKit**
17. **Maps**
18. **Storage & Data persistency** – NSUserDefaults, NSKeyedArchiver & Core Data
19. **ObjC**

Documentation

Swift & iOS

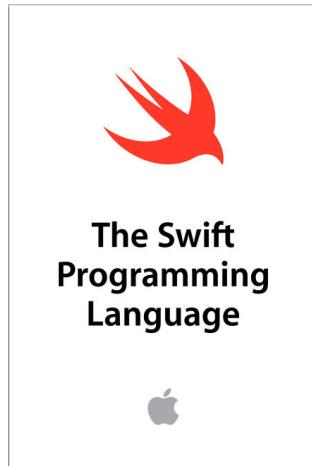
Documentation (1/7)

In Xcode



Documentation (2/7)

Apple's stuff



The 'bible'

iBook Store



The reference
Guide

<https://developer.apple.com/library/ios/>



the other
book :-)

iBook Store

A screenshot of a blog post from the Apple Developer Swift blog. The header includes the Swift logo and the word 'Swift'. Below the header, the date 'Oct 7, 2015' is shown. The main content is titled 'Literals in Playgrounds' and discusses the ability to embed files, images, and colors directly into Xcode playgrounds. A small 'RSS' link is visible in the bottom right corner of the screenshot.

Swift
Blog(!)

<https://developer.apple.com/swift/blog/>

Documentation (2/7)

Xcode Release Notes lesen



Xcode 7.2 beta 4 PRE-RELEASE

This is the complete Xcode developer toolset for building apps that run on Apple TV, Apple Watch, iPhone, iPad, and Mac. It includes the Xcode IDE, simulators, and all the required tools and frameworks to build apps for iOS, watchOS, tvOS, and OS X.

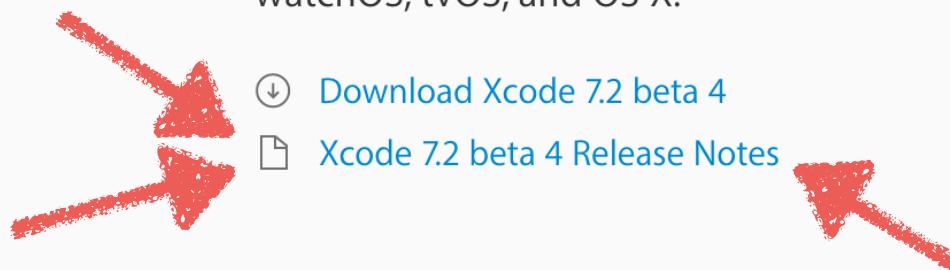
Build
7C62b

Posted Date
Nov 18, 2015

SDK

iOS 9.2 beta
OS X 10.11.2 beta
watchOS 2
tvOS 9.1 beta

- ① [Download Xcode 7.2 beta 4](#)
- ② [Xcode 7.2 beta 4 Release Notes](#)



<https://developer.apple.com/xcode/download/>

Documentation (3/7)

Guides and Reference

Get detailed information on Swift with a comprehensive reference and set of programming guides.

-  [Swift Programming Series \(iBooks Store\)](#)
-  [The Swift Programming Language](#)
-  [Using Swift with Cocoa and Objective-C](#)
-  [Swift Standard Library Reference](#)

Sample Code

Download samples that show how Swift code works.

-  [Request.playground](#)
-  [Balloons.playground](#)
-  [Patterns.playground](#)
-  [Lister: A Productivity App Built in Swift](#)
-  [UICatalog: Creating and Customizing UIKit Controls](#)
-  [Adventure: Building a SpriteKit Game Using Swift](#)

Videos

Watch videos from WWDC 2014 to learn about the Swift programming language. Please note that the presentations are based on previous beta software and includes information that has since been updated. [View the updates](#).

-  [Introduction to Swift](#)
-  [Intermediate Swift](#)
-  [Advanced Swift](#)
-  [Swift Playgrounds](#)
-  [Integrating Swift with Objective-C](#)
-  [Swift Interoperability In Depth](#)
-  [Introduction to LLDB and the Swift REPL](#)
-  [Advanced Swift Debugging in LLDB](#)

<https://developer.apple.com/swift/resources/>

Documentation (4/7)



Tagged Questions

info newest 6 featured frequent votes active unanswered

Swift is a programming language designed by Apple for creating iOS and OS X apps. Swift retains some elements from C and Objective-C, but offers many modern features such as generics, closures, optionals, tuples, type inference, and operator overloading.

[learn more...](#) | [improve tag wiki](#) | [top users](#) | [synonyms \(2\)](#)

394

votes

5
answers

62k views

Swift performance: sorting arrays

I was implementing an algorithm in Swift and noticed that the performance was very poor. After digging deeper I realised that one of the bottlenecks was something as simple as sorting arrays. The ...

[performance](#) [sorting](#) [swift](#)

asked Jun 7 '14 at 23:53



Jukka Suomela

3,058 ● 3 ● 15 ● 33

342

votes

15
answers

61k views

Do Swift-based applications work on OS X 10.9/iOS 7 and lower?

Will Swift-based applications work on OS X 10.9 (Mavericks)/iOS 7 and lower? For example, I have a machine running OS X 10.8 (Mountain Lion), and I am wondering if an application I write in ...

[ios](#) [osx](#) [swift](#)

asked Jun 2 '14 at 19:25



Melr

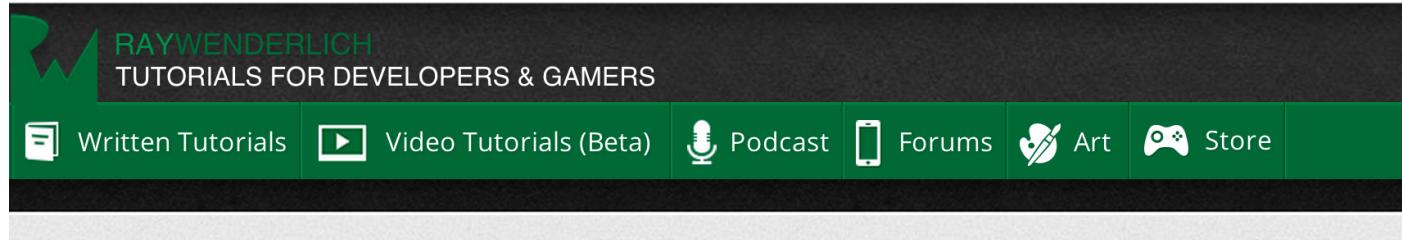
2,240 ● 5 ● 15 ● 44

206

dispatch_once singleton model in swift

[stackoverflow.com](#)

Documentation (5/7)

The image shows the top navigation bar of the RayWenderlich.com website. It features a dark header with the "RAYWENDERLICH" logo and the tagline "TUTORIALS FOR DEVELOPERS & GAMERS". Below the header is a green navigation bar with links for "Written Tutorials", "Video Tutorials (Beta)", "Podcast", "Forums", "Art", and "Store".

iPhone Tutorials

Note: Looking for list view by date? [Click Here!](#)

This site contains a ton of fun written tutorials – so many that they were becoming hard to find! So I put together this little page to help everyone quickly find the tutorial they're looking for. Hope you enjoy! :]

Swift Tutorials

Swift is Apple's entirely new, modern, type-safe programming language for Cocoa development. Swift has been in development for 4 years, and was just announced this year at WWDC.

- [Swift Tutorial: A Quick Start](#)
- [Swift Tutorial Part 2: A Simple iOS App](#)
- [Swift Tutorial Part 3: Tuples, Protocols, Delegates, and Table Views](#)



raywenderlich.com

Documentation (6/7)

The screenshot shows a web browser displaying the Apple Developer Forums profile page for user 'ChrisLattner'. The URL in the address bar is <https://devforums.apple.com/people/ChrisLattner>. The page has a dark header with the text 'Developer Forums' and a search icon. Below the header is a breadcrumb navigation bar with icons for Home, People, and ChrisLattner. The main content area features a profile picture of Chris Lattner, his name 'ChrisLattner', and a 'Email Updates' button. Below this, his location is listed as 'Cupertino, CA' and his member since date as 'Oct 24, 2008'. His last logged in date is 'Jan 7, 2015 10:22 PM'. A 'Latest Posts' section lists three recent forum posts by him, each with a timestamp: 'Re: Best practices to make Swift usable?' posted on Jan 7, 2015 at 10:24:10 PM; 'Re: Xcode 6.2b2' posted on Dec 10, 2014 at 2:54:31 PM; and another 'Re: Xcode 6.2b2' post from the same date and time.

Apple Developer <https://devforums.apple.com/people/ChrisLattner> Welcome

Developer Forums

People ChrisLattner

 **ChrisLattner** Email Updates

ChrisLattner
Cupertino, CA
Member Since: Oct 24, 2008
Last Logged In: Jan 7, 2015 10:22 PM

Latest Posts

Post	Date
Re: Best practices to make Swift usable?	Jan 7, 2015 10:24:10 PM
Re: Xcode 6.2b2	Dec 10, 2014 2:54:31 PM
Re: Xcode 6.2b2	Dec 10, 2014 2:48:16 PM

10

Documentation (7/7)

the other sites

- google.com (!!)
- twitter.com (!)
- developer.apple.com/library/ios/
- developer.apple.com/swift/blog/
- stackoverflow.com
- raywenderlich.com
- nshipster.com/
- asciiwwdc.com/
- github.com/iwasrobbed/Swift-CheatSheet
- github.com/practicalswift/swift-compiler-crashes
- github.com/ksm/SwiftInFlux
- github.com/trending?l=swift
- www.toptal.com/swift/from-objective-c-to-swift
- jamesonquave.com/blog/developing-ios-apps-using-swift-tutorial/
- realm.io/news/favorite-swift-tips-and-tricks-of-2014/
- ...

Meetups close to you



[CocoaHeads: *Cocoa on the Brain*]

[Home](#) [Resources](#) [Collaborative Projects](#) [Admin](#)

WHAT IS COCOAHEADS?

CocoaHeads is a group devoted to discussion of Apple Computer's **Cocoa** and **CocoaTouch Frameworks** for programming on MacOS X and iOS. During monthly meetings, members present on their projects and offer tutorials on various programming topics.

JOIN OUR MAILING LISTS

- [cocoaheads-announce](#)
- [cocoaheads-discuss](#)

JOIN US!

Find a CocoaHeads group near you using the map or group listing or [start a new group](#).

NEWS

The Silicon Valley CocoaHeads have started [video recording their meetings](#). Maybe your group should too!



cocoaheads.org

[Home](#) > [Topics](#) > [iOS](#)

iOS Meetups

Find out what's happening in iOS Meetup groups around the world and start meeting up with the ones near you.



Groups
659

Members
239,318

Interested
26,699

Cities
281

Countries
58

ios.meetup.com

cocoaheads-heidelberg.de

cocoaheadsffm.github.io/cocoaheadsffm

SwiftCheatsheet.pdf

<p>The Basics</p> <p>Types</p> <table border="1"> <tbody> <tr> <td>Int</td><td>1,2,100,500</td></tr> <tr> <td>Float or Double</td><td>3.4,123.123, 51.22</td></tr> <tr> <td>Bool</td><td>true, false</td></tr> <tr> <td>String</td><td>"Würzburg", "Darmstadt"</td></tr> <tr> <td>Classname</td><td>UIButton, UIView</td></tr> </tbody> </table> <pre>//var name :type = value //Variables: Explicit var currentValue:Double = 2.0 currentValue = 1.0 //Variables: inferred var currentValueInferred = 2.0 currentValueInferred = 1.0 //Constants let maximumNumberOfLoginAttempt:Int = 3 //maximumNumberOfLoginAttempt = 2 //error //Optional Variables var myOptionalClassNonEmptyString:String //print(myOptionalClass) //error //myOptionalClass = nil //error var myOptionalClass:String? myOptionalClass = nil</pre>	Int	1,2,100,500	Float or Double	3.4,123.123, 51.22	Bool	true, false	String	"Würzburg", "Darmstadt"	Classname	UIButton, UIView	<pre>//String Examples let constantClassNameMathematik = "Mathematik" //constantClassName += " iOS" //error var mutableClassName = "Programming" mutableClassName += " iOS" let constantClassName = "Programming" let iosClassName = "iOS" var courseName = constantClassName + "+iosClassName" courseName = courseName+"!" let courseMessage = "\u{constantClassName} is now offered for \u{iosClassName}" //Array Examples var student1 = "Jan" var student2 = "Brian" // init var students:[String] = [student1, student2] // insert students.append("Waldo") students += ["Denis"] students += ["Hans", "Denis", "Peter"] students.insert("Nicole", atIndex: 0) // iterating for person in students { print("person: \(person)") }</pre>	<pre>// init var roomList:[Int: String] = [201: "PCPool", 202: "Office", 203 : "Meeting-Room"] // elements roomList.count //Accessing Dictionaries let room = 201 let optionalRoomType = roomList[room] if let definiteRoomType = optionalRoomType { print("\(room) is a \(definiteRoomType)") } else { print("Sorry, never heard of \(room)!") } // insert roomList[200] = "Kitchen" // update roomList[201] = "PC Pool" // delete roomList[203] = nil //roomList.removeValueForKey(201) //Dictionary Ordering for (room, roomType) in roomList { print("[Unsorted] \(room) is a \(roomType)") } let keys = roomList.keys let sortedKeys = Array(roomList.keys).sort() for room in sortedKeys { let type = roomList[room]! print("[Sorted] \(room) is a \(type)") }</pre>
Int	1,2,100,500											
Float or Double	3.4,123.123, 51.22											
Bool	true, false											
String	"Würzburg", "Darmstadt"											
Classname	UIButton, UIView											